

SYSTEM FOR DYNAMIC AIRFLOW CONTROL IN A PAINT BOOTH USING MULTIPLE AIR SUPPLY PLENUMS

Abstract

A system and method for handling airflow in a paint booth where a primary plenum encloses a secondary plenum having a damper to control the amount of air entering the secondary plenum from the primary plenum. The secondary plenum is installed above a paint spray applicator and an anemometer. A damper at the secondary plenum inlet controls the amount of airflow from the primary plenum in real time based at least in part on the air velocity detected by the anemometer. The present invention can be employed with a system having variable density filter media extending across the primary plenum outlet to regulate the velocities of air moving through various locations of the paint booth.